|          |   |                      | COPY                         |
|----------|---|----------------------|------------------------------|
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| 3        | 425 Market Street San Francisco, California 94105-2482                        | E-filing             |                              |
| 5        | Telephone: (415) 268-7000<br>Fax: (415) 268-7522                              | · ·                  |                              |
| 6        | Attorneys for Plaintiff   |                      |                              |
| 7        | NORMAN & GLOBUS, INC.   |                      |                              |
| 8        |   |                      | ₹ P                          |
| 9        | UNITED STATES D   | ISTRICT COURT        |                              |
| 10       | FOR THE NORTHERN DIS  | TRICT OF CALIFO      | ORNIA                        |
| 11       | SAN FRANCISO  | CO DIVISION          |                              |
| 12       | NORMAN & GLOBUS, INC., a California Corporation,                              | No. 6                | U is the                     |
| 13       | Plaintiff,  |                      | FOR COPYRIGHT                |
| 14       | v.  | INFRINGEMI           |                              |
| 15       | THAMES & KOSMOS, LLC  | Jury Trial Dem       | anded                        |
| 16       | a Rhode Island Limited Liability Company,                                     |                      |                              |
| 17       | Defendant.  |                      |                              |
| 18<br>19 | Plaintiff Norman & Globus, Inc. ("Norman                                      | & Globus'') allege   | s as follows:                |
| 20       | NATURE OF   |                      | s as follows.                |
| 21       | This is a civil action for copyright infr                                     |                      | om the defendant's           |
| 22       | unauthorized copying of certain portions of plainti                           | ff's copyrighted sci | ence kits.                   |
| 23       | PART  | <u>IES</u>           |                              |
| 24       | 2. Norman & Globus is one of the world  | 's leading develope  | rs of science kits and books |
| 25       | for children that encourage independent learning th                           | nrough play. Norma   | an & Globus is a California  |
| 26       | corporation headquartered at 3820B San Pablo Dai                              | n Road, El Sobrant   | e, California 94820.         |
| 27       | •   | ,                    |                              |
| 28       | 1   |                      |                              |
|          | of 2610866  |                      | CASE NO<br>COMPLAINT         |
|          | sf-2610866  |                      |                              |

 Thames & Kosmos, LLC is a Rhode Island limited liability company headquartered at 207 High Point Avenue, Portsmouth, Rhode Island, 02871.

### **JURISDICTION AND VENUE**

- 4. This Court has subject matter jurisdiction pursuant to 28 U.S.C. § 1331 (federal question) and 28 U.S.C. § 1338 (copyright claim).
- 5. Thames & Kosmos is subject to personal jurisdiction because it has constitutionally sufficient contacts with California so as to make personal jurisdiction proper.
- 6. Venue is proper in this district pursuant to 28 U.S.C. §§ 1391 and 1400 in that Thames & Kosmos is subject to personal jurisdiction in this district, a substantial part of the events giving rise to plaintiff's claims occurred in this district, the wrongful acts of the defendant were directed toward this district, and the injury to plaintiff occurred and is occurring primarily in this district.

### **BACKGROUND**

### A. Norman & Globus's Science Kit Business

- 7. Norman & Globus is a family owned and operated business. Norman & Globus was founded by Dr. Penny Norman in 1982. Dr. Norman, who has a Ph.D. in Biophysics from U.C. Berkeley, began creating science kits and books in 1994 due to her concern about the limited exposure of elementary school children to the physical sciences.
- 8. Dr. Norman has created over a dozen different science kits and books, on topics ranging from Electricity to Chemistry, from Rocks to DNA. Each of Dr. Norman's books and kits is a unique compendium of those materials that she feels contribute best to children's knowledge of and joy in science.

- 9. Norman & Globus's books and kits require years to develop. Each book and kit is designed, written, edited and tested with children, then revised and retested until students understand the sometimes complex scientific concepts that Dr. Norman is endeavoring to teach.
- 10. Norman & Globus has received several awards for its kits and books, including awards from Scientific American, Good Morning America, the National Parenting Magazine, and Woman's Day Magazine, to name but a few.
- 11. Today, Norman & Globus sells more science kits in the United States than any other children's science kit producer. Since 1994, millions of children have been delighted and educated in basic science by Dr. Norman's books and kits.

### B. Norman & Globus's DNA Wizard Science Kit and Book

- 12. One of the science kits that Dr. Norman developed is the DNA Wizard™. The DNA Wizard is a kit which includes a book, materials for hands-on experiments, and puzzles which explore DNA. Dr. Norman spent 8 years creating and refining the DNA Wizard kit and its contents. The DNA Wizard kit was first released in 2004.
- 13. The DNA Wizard kit includes a game called the "Chromosome Puzzle." As the DNA Wizard book explains, DNA is divided into pieces called chromosomes. In the nucleus of each person's cells, there are 23 pairs of chromosomes. Chromosomes can be sorted by size, by pattern, and by the position of the centromere, which is a pinched indentation on each of the chromosomes. A copy of a portion of the DNA Wizard kit's book is attached as Exhibit A.
- 14. The Chromosome Puzzle was created by Dr. Norman with artwork by Art Huff. A copy of both sides of the Chromosome Puzzle is attached as Exhibit B. The puzzle has 23 pairs of chromosomes, which are perforated so that they can be separated from one another. On one side of the sheet, the chromosomes are colored in a unique way. On the other side of the sheet, the chromosomes are black and white.

- 15. To play the Chromosome Puzzle game, a child separates the chromosomes and places the pieces with the black and white side facing up. Then, the child sorts the chromosome pieces by size, pattern, and centromere position. When the child playing the Chromosome Puzzle reaches the 23<sup>rd</sup> pair, the child can determine whether the puzzle's chromosomes indicate a boy (an XY chromosome pair) or a girl (an XX chromosome pair).
- 16. While testing her original Chromosome Puzzle, Dr. Norman noticed that children had difficulty matching all of the chromosomes, as some of the differences are subtle. The colored side of the chromosomes was specifically created by Dr. Norman so that young children could easily check their work. By flipping the pieces over to the color side, children can see if they have made a mistake in matching.
- 17. The Chromosome Puzzle has unique representations of chromosomes' shape, bands, centromere positions, and colors, which were designed by Dr. Norman and Art Huff.
- 18. Scientists typically sort chromosomes to diagnose abnormalities such as extra, missing or damaged chromosomes. This sorting is called karyotyping. In karyotyping, the exact shape of the chromosomes changes each time they are analyzed and is arbitrarily determined by how the chromosomes lay on a slide. The shapes and wiggles of the Norman & Globus chromosomes were decided upon by Art Huff and Dr. Norman and have no relation to any actual set of chromosomes.
- 19. In karyotyping, the bands of the chromosomes are shown by staining them. The placement and size of the bands are determined by the genetic code of the chromosome and are relatively standard for humans. In the creation of the chromosomes used in the Chromosome Puzzle, Norman & Globus did not follow the scientific norm for placement and size of the bands. Thus, the bands shown in the Chromosome Puzzle are a unique artist's rendition.

- 20. While the exact position of the centromere for any given chromosome is typically dictated by biology, the centromere positions in the Chromosome Puzzle are a unique artist's rendition.
- 21. Finally, although scientists conducting karyotyping have techniques for staining chromosomes with colored stains, the color pallet used in the Chromosome Puzzle is unique and is not based on the stains typically used in the scientific field.

### C. Thames & Kosmos's Blatant Copying of Norman & Globus's Chromosome Puzzle

- 22. Thames & Kosmos also makes experimental kits for children, including a kit entitled "Genetics & DNA." On information and belief, Thames & Kosmos first began selling the Genetics and DNA kit in 2008.
- 23. The manual for the Genetics & DNA kit contains a section on chromosomes and a part called the "Chromosome puzzle." A copy of portions of the Thames & Kosmos Experimental Manual for the Genetics & DNA kit is attached as Exhibit C. A copy of the Thames & Kosmos chromosome puzzle is attached as Exhibit D.
- 24. Thames & Kosmos's chromosome puzzle is nearly identical to Norman & Globus's.

  A comparison of the materials attached as Exhibits B and D demonstrates the striking similarity and quantity of copying.
- Just like Norman & Globus's Chromosome Puzzle, Thames & Kosmos's puzzle contains 23
   sets of chromosomes with perforation lines between each chromosome.
- Just like Norman & Globus's Chromosome Puzzle, Thames & Kosmos's puzzle is double-sided. On one side of the sheet, the chromosomes are colored; on the other side of the sheet, the chromosomes are black and white.
- Just like Norman & Globus's Chromosome Puzzle, Thames & Kosmos's puzzle instructs children to separate the chromosomes, place the pieces with the black and white side facing

- up, sort the pieces, and then determine whether the puzzle's chromosomes indicate a boy or girl.
- The shapes, wiggles and sizes of the chromosomes in Thames & Kosmos's puzzle are almost identical to those in Norman & Globus's Chromosome Puzzle.
- The placement and size of the bands of the chromosomes in Thames & Kosmos's puzzle are almost identical to those in Norman & Globus's Chromosome Puzzle.
- The centromere positions of the chromosomes in Thames & Kosmos's puzzle are almost identical to those in Norman & Globus's Chromosome Puzzle.
- The color pallet used for the chromosomes in Thames & Kosmos's puzzle is almost identical to that used in Norman & Globus's Chromosome Puzzle.

### FIRST CAUSE OF ACTION

### (Copyright Infringement)

- 25. Norman & Globus incorporates by reference the allegations set forth in paragraphs1-24 of the Complaint.
- 26. The DNA Wizard Science Kit and its contents, including the Chromosome Puzzle, contain a substantial amount of original material and are copyrightable subject matter under the Copyright Act, 17 U.S.C. § 101 et seq.
- 27. Norman & Globus is the exclusive licensec of all copyrights in the DNA Wizard Kit and its contents, including the Chromosome Puzzle. Norman & Globus has the exclusive right to use, manufacture, have manufactured, sell, distribute and advertise the DNA Wizard Kit.

  Norman & Globus, in its sole discretion, also has the right to prosecute lawsuits against third persons for infringement of the DNA Wizard Kit, along with the right to sue for past damages.
- 28. The copyright registration for the DNA Wizard is attached as Exhibit E. Art Huff assigned all his rights and interests in DNA Wizard to Dr. Norman.

- 29. Thames & Kosmos had access to Norman & Globus's DNA Wizard Kit, as anyone may purchase them in stores or on-line.
- 30. Without consent, approval or license of Norman & Globus, Thames & Kosmos infringed and continues to infringe on the copyright to DNA Wizard and its contents. Upon information and belief, Thames & Kosmos's infringement is and has been knowing and willful.
- 31. Norman & Globus is suffering irreparable injury from Thames & Kosmos's infringing conduct, which will continue until enjoined by the Court. As a result of Thames & Kosmos's acts of infringement, Norman & Globus is without adequate remedy at law. Norman & Globus is entitled to a permanent injunction prohibiting Thames & Kosmos, its agents, and all persons acting in concert with it, from infringing Norman & Globus's exclusive rights in the intellectual property to the DNA Wizard Kit in any manner, including but not limited to, the copying, distribution, sale, and use of copyrightable matter from the DNA Wizard Kit in Thames & Kosmos's Genetics & DNA kit. Norman & Globus is also entitled to an Order recalling all infringing copies of the Genetics & DNA kit and requiring their destruction. In addition, Norman & Globus is entitled to recover from Thames & Kosmos the damages, including attorneys' fees, that Norman & Globus has sustained and will sustain, and any gains, profits, and advantages obtained by Thames & Kosmos as a result of their acts of infringement alleged above, in an amount subject to later proof.

### PRAYER FOR RELIEF

Wherefore, Norman & Globus prays for relief as follows:

- A. For an Order declaring that Thames & Kosmos has infringed Norman & Globus's exclusive rights in the intellectual property to the DNA Wizard Kit;
- B. For an Order permanently enjoining Thames & Kosmos, its agents, servants, and employees, and all parties acting in concert with it, from infringing Norman & Globus's

sf-2610866

CASE NO. COMPLAINT

JURY DEMAND Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Norman & Globus hereby demands a trial by jury of all issues triable of right by a jury in the above-captioned case. Dated: January 27, 2008 MICHAEL A. JACOBS DIANA B. KRUZE MORRISON & FOERSTER LLP Michael A. Jacobs Attorney for Plaintiff NORMAN & GLOBUS, INC. CASE NO. COMPLAINT

sf-2610866

# EXHIBIT A

ScienceWiz®

## DNA WIZARD

terials Intl

Penny Norman, Ph.D.

### **ADULT SUPERVISION REQUIRED:**

PRECAUTIONS AND WARNINGS: NOT FOR CHILDREN UNDER 8 YEARS OF AGE. Read this and all safety labels on all the materials used with this kit before you allow your child to begin. The last project in this book uses a strain of bacteria enclosed in a sealed vial as an inactivated freeze dried pellet. This is an "enfeebled" non-pathogenic strain of bacteria that does not grow well on its own, that contains no plasmids and produces no toxins (E-coli, K-12). Further, we have eliminated the need for growing what are called bacterial "starter colonies" on petri dishes in the home version of this kit. This minimizes the bacteria's exposure to your child and helps to avoid the common problem of growing unwanted germs that can ruin the experiment. To further avoid the risk of growing contaminated petri dishes, we have eliminated some pedagogically important but conceptually advanced "control" steps that you may want to include for older students or for science fair projects. See the web for details. Regardless of these precautions, you should use Standard Microbiological Practices for the handling and disposal of the materials used in the preparations for and doing of the Glowing Bacteria experiment. Read the sheet in the kit which formally states these practices. By using these procedures, you will be teaching your child some important life skills regarding how germs grow and how we protect ourselves from germs with some simple, basic rules. We have incorporated the steps for the proper handling of these materials throughout the book. READ and FOLLOW these directions. A petri dish with an antibiotic (ampicillin) is used at the conclusion of the Glowing Bacteria Experiment. AS A PRECAUTION, THIS PLATE SHOULD BE PRE-PARED BY AN ADULT. DO NOT INGEST. BE AWARE OF POSSIBLE ALLERGIES. This kit contains a long wave ultraviolet (UV) LED. Exposure to UV radiation can cause damage to eyes and skin. Long wave UV is less damaging than short-wave UV. The push button on our UV LED intensionally limits its use or abuse as a black light. NEVER point the UV LED into your eyes. Avoid extended use. Use UV rated safety glasses for additional protection. The glass thermometer can break.

### GROUP PROJECTS, DNA PARTIES AND CLASSROOM USE

This kit makes reference to extension materials for use with a party, group or classroom. The OOEY GOOEY DNA extraction can be performed by whole groups with minimal purchases of additional materials. With multiple kits, a group working together can build a double helix that extends across a whole room – a delightful project for all. Cameras recommended! Children have the greatest fun and focus with the chromosome puzzle when they work together in pairs. To eliminate the need for streaking in this home kit, we have included somewhat more freeze dried bacteria and plasmid than the standard protocols specify. We have included reference to an extension which allows the use of these same materials by more experimenters. This extension DOES REQUIRE the purchase of an additional expansion kit, but permits you to make fuller use of the costly materials already here.

SHOPPING LIST: This kit involves the use of common household materials, which were not practical to include in the kit. Here is the list.

#### COMMON HOUSEHOLD ITEMS:

a fruit: kiwi, strawberry or onion salt - just a pinch ice cubes funnel or plastic lunch bag 2 bowls fork and knife (plastic works) clear plastic cup measuring cup timer or clock with second hand laundry detergent bleach (adults only)





RECYCLED CONTAINER: an empty glass jar

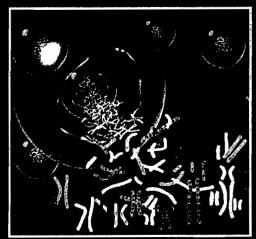
**PURCHASE:** CHILLED denatured alcohol, rubbing alcohol, or ethanol

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## CHROMOSOME RUZZLE

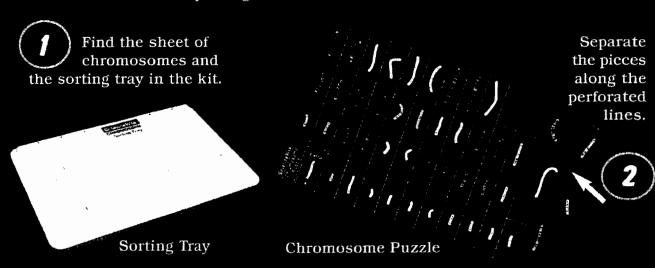
If you could remove the **DNA** from just ONE of your cells (you have billions and billions of cells), it would stretch to an uncoiled length of 2 meters or 6 feet. If you had an ultra thin thread that stretched half way across a room and you tried to pack it into a tiny ball smaller than a pencil dot, it would be extremely difficult to keep that thread from getting tangled and knotted. How do your cells keep such inordinately long, thread like molecules from getting tangled and knotted? With carefully, organized packaging!



In higher organisms **DNA** is divided into pieces called chromosomes. In the nucleus of each of your cells there are 23 pairs of **CHROMOSOMES** 46 total. Twenty three are from your mother and 23 are from your father.

Scientists are able make visual your forty six **CHROMOSOMES** by staining them to look like striped tubes, as shown on the next page. DO you see the pinched indentation on each chromosome? This is called the centromere. **CHROMOSOMES** can be sorted by size, by pattern and by the position of the centromere. After you

sort a cell's **CHROMOSOMES**, you can look at the 23rd pair and tell if it comes from a boy or a girl! Let's see it you can solve the **CHROMOSOME** puzzle in your kit and tell if it is a boy or a girl.



Place the chromosomes with the black and white chromosomes facing up.

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### BUY UR GIRL?

Use the picture below to sort the 23 pairs of chromosomes into the tray by size, by the patterns of the black and white bands and by centromere position. The largest chromosome pair goes into position 1 in the tray; the smallest chromosome pair is 22.

### KARYOTYPING (CARE ee oh TYPing) 5 2 3 7 10 12 11 17 15 18 15 17 X 21 22

This sorting of chromosomes is called **KARYOTYPING**.
The color coded chromosomes

on the back of the puzzle pieces match to the picture above. This computer generated coloring is called chromosome painting. It is used to sort, analyze and visualize chromosomes.

You can use your painted chromosomes to check your skill at **KARYOTYPING**. What you will notice is that the first time you sort chromosomes it may be difficult, but with each try it gets easier.

The 23rd chromosome pair that you inherit from your parents determines whether you are a boy or a girl. Your mother always gives you an X chromosome. It is your father who gives you either an X or a Y. Your father determines your gender.

If you are XX, you are a girl.



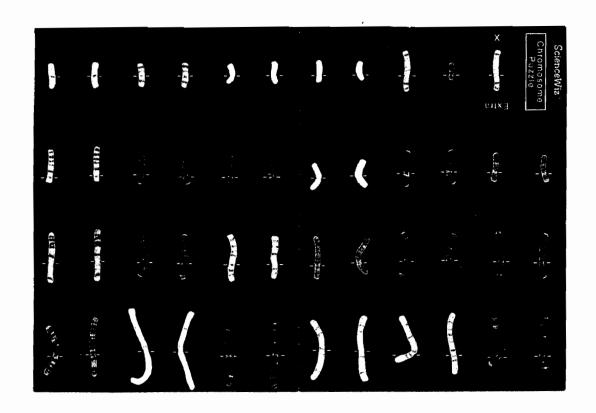


If you are XY, you are a boy.

Do the chromosomes you just sorted code for a boy or a girl?\*

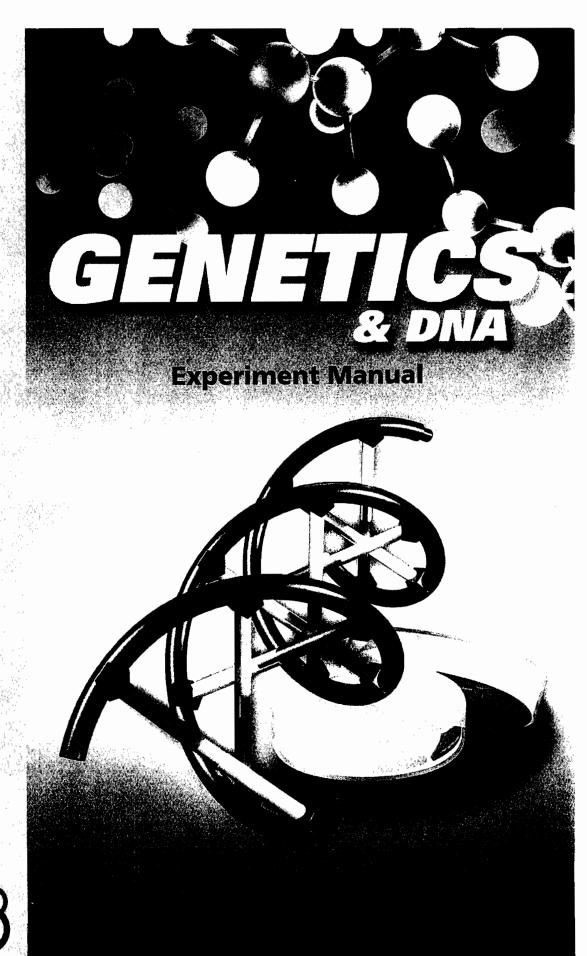
\*In this kit, there is a second X chromosome card that you can use to replace the Y.

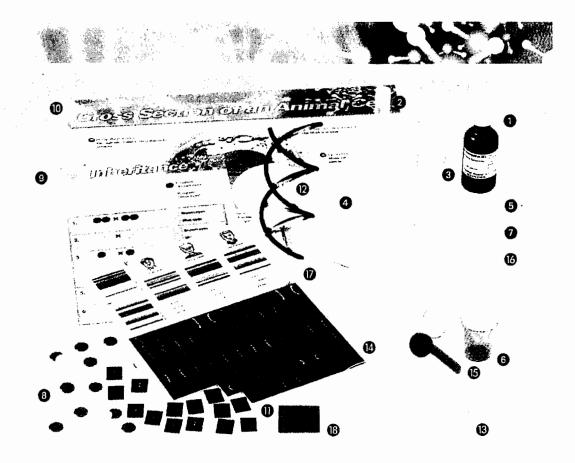
## EXHIBIT B



## EXHIBIT C

Source Kosmos





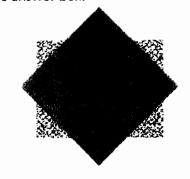
| No. | Description  | Part    | Part No. |
|-----|--|---------|----------|
| 1   | Empty brown glass bottle with lid                  | 1       | 772 093  |
| 2   | Test tube with stopper                             | 2       | 772 100  |
| 3   | Funnel   | 1       | 086 228  |
| 4   | Filter paper sheet                                 | 10      | 772 092  |
| 5   | Pipette  | 1       | 232 134  |
| 6   | Measuring cup                                      | 1       | 065 099  |
| 7   | Wooden skewer                                      | 1       | 020 042  |
| 8   | White and red plastic chips                        | 12 each | 705 818  |
| 9   | Inheritance worksheet                              | 1       | 705 897  |
| 10  | Cell poster  | 1       | 705 820  |
| 11  | Chromosome puzzle and genetic fingerprinting cards | 1       | 705 819  |
| 12  | DNA model  | 1       | 705 817  |
| 13  | Petri dish   | 2       | 702 184  |
| 14  | LB agar  | 2       | 705 815  |
| 15  | Lid opener   | 1       | 070 177  |
| 16  | Wooden spatula                                     | 1       | 000 239  |
| 17  | Safety goggles                                     | 1       | 052 297  |
| 18  | Red decoder film                                   | 1       | 161 415  |

Also Required

Denatured alcohol (methylated spirits), table salt, dish washing liquid, teaspoon, 2 yogurt containers, ruler, felt-tip pens, knife, scissors, permanent marker, plastic wrap, hand blender, tomato, jelly jar, microwave

In each experiment, materials that are required but not included in the kit are written in *cursive script*.

This red magnifying glass pops up over and over again in this manual. It shows where you can check your answer to a question by laying the red decoder film over the answer box.





### 5. Chromosomes

Mendel certainly accomplished a lot, but even after his discoveries, it wasn't clear where in the body the inherited programs for our features might be located.

After about 1850, researchers working with microscopes began to notice strange spiral shapes in a special region of the cell that they called the cell nucleus. Around 1880, a few of them began to suspect that these shapes might have some special importance. The anatomist Wilhelm Roux (1850-1924) even claimed in 1883 to have observed that the strange strings were always present in pairs, and that they were evenly and accurately distributed between the daughter cells with each cell division. He observed correctly. Today we call the "sausage-like" shapes in the cell nucleus chromosomes. They are long threads of hereditary material, which are rolled up with lots of twists and packaged by the cell. There is a very simple reason for this: If it were stretched out, the hereditary material (like what you isolated from tomatoes in Chapter 1) would be much too long to be housed in a single cell. Human DNA would be a full two meters long if stretched out — much too long for a cell with an average length of forty thousandths of a millimeter, or just 0.000040 meters!

So the long thread is folded and wound up until it fits. The chromosomes that you see here in the photos are just about four thousandths of a millimeter long. Thus, they easily fit inside the cell.

We also just saw how we always have two programs for any feature.

In addition to that, there is another astounding case of symmetry: Each cell in the body always has exactly the same number of chromosomes. We will now determine that number.

### 11 Experiment

### What chromosomes reveal

You will need:

chromosome sheet (set A), plastic bag, scissors

Here's hour

Cut out the individual chromosomes from chromosome set A. Now you have an enlarged set of the chromosomes from a single human cell, a large model of that which researchers routinely examine from small blood samples under the microscope. Now turn all the individual chromosomes over so that you have them laid out in black and white in front of you. How many chromosomes are there?

D Answer:



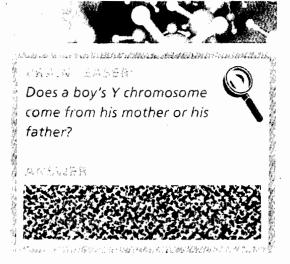
Chromosome (computer rendering)

Think about how you would organize the chromosomes. According to the rules of Gregor Mendel, all the programs for features are doubled in each cell. Can you see whether certain chromosomes fit together? Organize the chromosomes in matched pairs according to their sizes.

To check whether you found the right pairs, simply turn the cards over. You can tell by their colors and numbers whether you matched them up correctly.

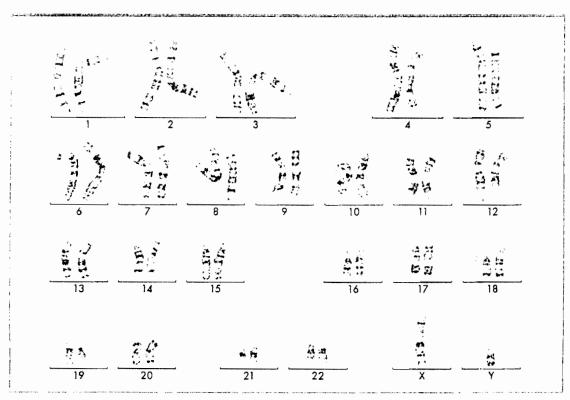
### Something doesn't add up:

There are 22 chromosome pairs, but there are two individual chromosomes left over. Due to their characteristic shape, they are called X and Y chromosomes. They determine whether the



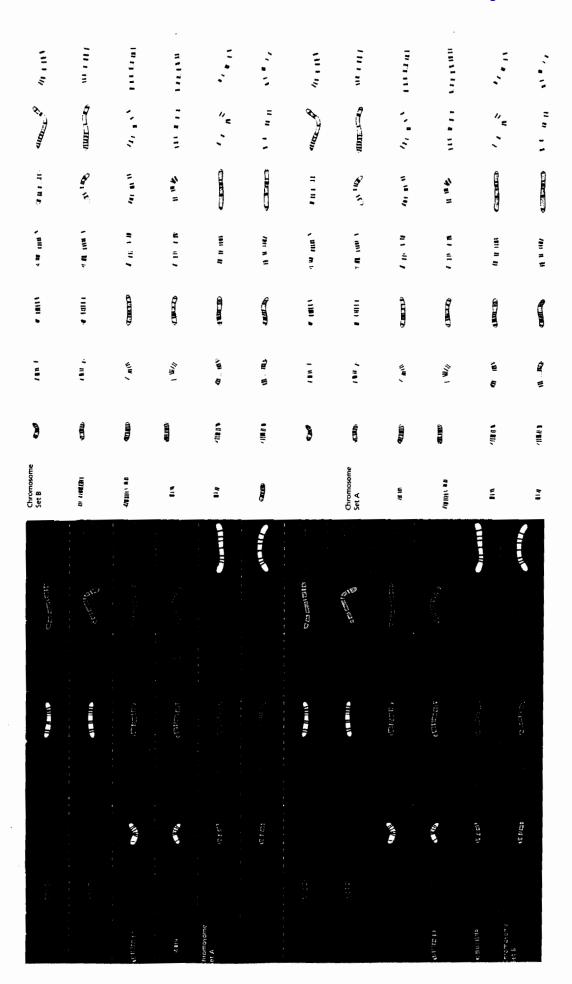
person is a boy or a girl. Boys have one X and one Y chromosome, while girls have two X chromosomes. So now you can also tell whether your chromosome puzzle is for a boy or a girl.

You can save the chromosome pieces in the small plastic bag that is included with the kit. Let your friends try the puzzle too!



Karyogram — graphic representation of the set of chromosomes of a male

## EXHIBIT D



# EXHIBIT E

Form TX
For a Nondramatic Eucrapy Work
United States Copyright Office

REGISTRATION NUMBER

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